CS 837 – Information Visualization
Spring/Summer 2014

Instructor: **Dr. Orland Hoeber**
Lectures: **T/TH 8:30 – 11:30 AM (150 minutes of lecture) (CL 345)**
Webpage: **http://www.cs.uregina.ca/~hoeber/teaching/cs837/**
Email: **orland.hoeber@uregina.ca**

Office Hours: **T/TH 12:30 – 2:00 PM**
Office: **CW 308.25**
Phone: **306–585–4598**

Course Prerequisites
One of CS 305, CS 315, or CS 325 (or equivalent)

Course Objectives
Information Visualization focuses on the design, development, and study of interactive visualization techniques for the analysis, comprehension, exploration, and explanation of large collections of abstract information. Topics to be covered include principles of visual perception, information data types, visual encodings of data, representations of relationships, interaction methods, and evaluation techniques.

Primary Textbook
Ward, M, Grinstein, G., and Keim, D. Interactive Data Visualization: Foundations, Techniques, and Applications, A. K. Peters Ltd. 2010. (ISBN–13: 978–1568814735)

Supplemental Textbooks (Optional)
Ware, C. Information Visualization: Perception for Design, 3rd Edition, Morgan Kaufmann, 2013. (ISBN–13: 978–0123814647)

Few, S. Information Dashboard Design, 2nd Edition, Analytics Press, 2013 (ISBN–13: 978–1938377006)

Evaluation
The final grade in the course will be determined as follows:

Assignments	4 x 10%	40%
Exam		25%
Project Paper		35%
Total		**100%**

* In order to pass the course, you must pass the exam. Note that the passing grade for a graduate course is 70%.
* Your final mark may be adjusted by +/– 5%, at the instructor's discretion.

Course Schedule & Topics (Tentative)

Topic	Date	Topics
0	May 6	• Introduction & Syllabus Review
1	May 6	• Readings: Ch 1 • What is Visualization
2	May 8	• Readings: Ch 2 • Data Foundations
*	**No lectures or office hours for 1 week**	•
3	May 20	• Readings: Ch 3 • Human Perception & Information Processing • **Assignment 1 is due (May 20)**
4	May 22	• Readings: Ch 4 • Visualization Foundations
*	**No lectures or office hours for 2 weeks**	
5	June 10	• Readings: Few, 2013 • Dashboard Design • **Assignment 2 is due (Jun 10)**
6	June 12	• Readings: Ch 5 • Visualization Techniques for Spatial Data
7	June 17	• Readings: Ch 6 • Visualization Techniques for Geospatial Data
8	June 19	• Readings: Ch 7 • Visualization Techniques for Multivariate Data
*	**No lectures or office hours for 2 weeks**	
9	July 8	• Readings: Ch 8 • Visualization Techniques for Trees, Graphs, and Networks • **Assignment 3 is due (Jul 8)**
10	July 10	• Readings: Ch 9 • Text and Document Visualization

Topic	Date	Topics
11	July 15	• Readings: Ch 10 & 11 • Interaction Concepts and Techniques
12	July 17	• Readings: Ch 13 • Comparing and Evaluating Visualization Techniques • **Assignment 4 is due (Jul 17)**
	July 22	• **Exam (Jul 22)**
*	**No lectures or office hours for the remainder of the semester**	
	August 19	• **Project Demos/Presentations (Aug 19)**
	August 23	• **Project Paper is due (Aug 23)**

The **Exam** has been scheduled for Tuesday July 22, 2014 at 8:30 AM. The exam will be comprehensive, covering the entire breadth of topics covered in the course.

Lectures and Lecture Notes
Lectures will be held two times per week: T/TH (8:30 – 11:30, ED 315), with three breaks in which there will be no lectures (one week in the middle of May, two weeks at the end of May, and two weeks at the end of June). During these times, it is expected that students will be working on their assignments and projects.

All lecture notes and assignments will be posted on UR Courses. The lecture notes should not be used as an alternative to attending the lectures. It is expected that students will attend the lectures, listen to the explanations and discussions, and take notes about the important information.

Assignments
All assignments and the project paper submissions are due prior to the beginning of the class (8:30 AM) on the specified dates, and must be submitted electronically via UR Courses. Late submissions will not be accepted, but the grades for missing assignments may be moved to the final exam under exceptional circumstances, and with appropriate documentation.